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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/712,018

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Neil H. Puester

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EXAMINER

DOVE, TRACY MAE

ART UNIT

PAPER NUMBER

1745

MAIL DATE

DELIVERY MODE

05/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/712,018	Applicant(s) PUESTER ET AL.	
	Examiner Tracy Dove	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19, 27-30, 33, 34, 36 and 37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 33, 34, 36 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>20061107</u> . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

This Office Action is in response to the communication filed on 2/9/07. Applicant's arguments have been considered, but are moot in view of the new grounds of rejection. Claims 1-19, 27-30, 33, 34, 36 and 37 are pending. This Action is made FINAL, as necessitated by amendment.

Claims Analysis

Claim 1 recites "wherein the hydrophobic material has deformable properties to provide an outer pressure tight seal of the battery". Claim 3 recites "said hole being in communication with the inside of the outer pressure tight seal". Therefore, the claimed "gasket" and the claimed "pressure tight seal" are the same element. Examiner suggest claim 3 be amended to recite "an inside of the gasket". See also claim 12.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-19, 33, 34, 36 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Frederiksson et al., US 2005/0260493.

Frederiksson teaches a NiMH bipolar battery having a sealed housing, a negative end terminal, a positive end terminal and at least one biplate assembly comprising a biplate, a positive electrode and a negative electrode. A separator is arranged between each negative and

Art Unit: 1745

positive electrode forming a battery cell. The separator includes an electrolyte. The battery includes a frame (gasket) that is attached to each biplate and/or biplate and end terminal to permit ambient gas to pass between adjacent cells, thereby creating a common gas space for all cells in the battery (abstract). Figures 9-11 depict embodiments where the gasket 60,70,80 encompasses the peripheral edge of the biplate and has a hole 61,71,81 for gas passage. The frames 60,70,80 are made from a hydrophobic material (0100-0102). The frame provides a adequate seal against the biplate to prevent any electrolyte paths to be formed between adjacent cells, thus eliminating the need for a separate hydrophobic barrier (0103). The frame may be made of an injection molded thermoplastic elastomer compound to form a better seal with the biplate (0046,0094). At least one ridge 53 (guide means) is provided along the inside of the casing 27 to define the position of the edge of the biplate assembly 40.

Thus the claims are anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6, 7, 9-12, 15, 16, 18, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arias et al., US 5,916,709.

Arias teaches a bipolar battery having a bipolar plate 200 that is covered with positive active material layer 202 and negative active material layer 204 on opposite side thereof. A series of battery cells are formed by the bipolar plates 200. Figure 2 shows three cells. The

Art Unit: 1745

battery stack assembly 208 is bounded by a first end plate current collector 210 and a second end plate current collector 212. The battery stack is enclosed in a sealed container assembly 214. Terminals 222 and 224 extend outside the battery container assembly 214 (4:10-42). Figure 4A shows a gasket made of a flexible hydrophobic sponge material 400 with minimal resistance to compressive loads. The flexible (deformable) hydrophobic sponge 400 prevents electrolyte “creep”. Element 400 is an electrolyte inhibiting device and Arias teaches an electrolyte inhibiting device may be formed on the peripheral edges of the biplate plates to confine the excess electrolyte from bridging between two neighboring cells (5:17-40). The flexible sponge allows evolved gases to circulate freely in the sealed container assembly via holes in the sponge.

Arias does not explicitly teach the flexible hydrophobic sponge gasket 400 at least partially encompasses the peripheral surface of the biplate. Note the claimed invention defines the peripheral surface as a surface extending between the opposed major surfaces of the biplate.

However, the invention was a whole would have been obvious to one having ordinary skill in the art at the time the invention as made because Arias teaches the electrolyte inhibiting device may be formed on the peripheral edge of the biplate to confine the excess electrolyte from bridging between two neighboring cells. Furthermore, one of skill would have reasonably concluded that when the bipolar battery of Arias is compressed, the flexible sponge deforms and encompasses the peripheral edge of the biplate. As shown in Figure 4A, the flexible sponge is located at the edge where the major surface and peripheral surface of the biplate meet. One of skill in the art would have found it obvious for the gasket to at least partially encompass the peripheral edge of the biplate in view of the teachings that 1) electrolyte inhibiting devices may be formed on the peripheral edges of the biplate plates to keep any excess electrolyte from

Art Unit: 1745

bridging between two neighboring cells and 2) the flexible sponge of Figure 4A has minimal resistance to compressive loads.

*

Claims 4, 5, 13, 14, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arias, US 5,916,709 in view of Mrotek et al., US 5,688,615.

See discussion of Arias above regarding claim 1 and 10. Arias does not teach the gaskets include a guide means.

However, Mrotek teaches a bipolar battery comprising a frame member wherein the frame member includes a guide means for controlling the position of the biplate. See at least Figure 6. Element 60 is considered the rim of the claimed invention.

Therefore, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because Mrotek teaches the guide means helps to align the biplate during cell assembly. Mrotek further teaches it was known in the art that the frame members of bipolar batteries may have the guide means disclosed by Mrotek or the frame members may have a smooth upper surface without alignment means (6:34-37). One of skill would have been motivated to use a guide means for the bipolar battery of Arias to help align a biplate during cell assembly. Furthermore, Mrotek teaches frame gaskets with alignment means may be substituted for frame gaskets with smooth surfaces.

Response to Arguments

Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is 571-272-1285. The examiner can normally be reached on Monday-Thursday (9:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 1, 2007



TRACY DOVE
PRIMARY EXAMINER